

DRAFT Long Version
Ethylene Oxide: Technical Review
Status Report: Sasol Chemicals (USA), Lake Charles Chemical Complex – Westlake, LA

As EPA pursues its mission to protect public health and the environment, addressing ethylene oxide remains a major priority for the Agency. EPA's National Air Toxics Assessment (NATA), released in August 2018, identified a number of areas of the country where risks of cancer were potentially elevated because of ethylene oxide emissions. NATA estimated risk based on emissions from 2014, which were the most recently available at the time.

Because NATA is a screening-level analysis, additional work is needed to better understand emissions in areas NATA identifies as potentially having elevated risk, and to identify opportunities for early reductions at individual facilities, while EPA reviews its regulations for industries. EPA supports its state air agency partners in that work.

The information below describes the technical analyses conducted for Sasol Chemicals (USA), Lake Charles Chemical Complex (Sasol Chemicals) in Westlake, LA, since NATA was issued in August 2018. It also summarizes outreach to nearby communities.

Technical Reviews Conducted

- On October 15, 2020, EPA Region 6 sent letters to request assistance from the State of Louisiana in gathering the most current information on the specific ethylene oxide emitting facilities, including Sasol Chemicals, and to assist with the development of technical assessments. The EPA letter outlines the proposed technical approach and steps to complete these assessments, including the information needed from our state regulatory partners. These steps include:
 - EPA is in communication with the State of Louisiana and we are coordinating on activities involving EtO.
 - The EPA NATA estimate was based on annual emissions data from 2014. From 2014-2019, the reported EtO emissions at Sasol Chemicals facility were reduced by 75 percent through emission reductions and/or re-evaluation of actual emission levels.
 - EPA and LDEQ conducted a conference call with Sasol Chemicals on April 8, 2021, to discuss facility efforts to reduce reported ethylene oxide emissions and to obtain additional technical information.

Preliminary 2020 Annual Emissions Data Update

2020 emissions data updates from facilities were due for submissions to LDEQ on April 1, 2021.

While an LDEQ quality assurance/quality control review of this new 2020 emissions data is underway, the preliminary review of this data, along with information received from Sasol indicates that:

- From 2014-2020, the reported EtO annual emissions at the Sasol facility were reduced

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process--Draft Data; Final Data is in Jun 24, 2021 Public Report

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The Facility and EtO Processes

The Sasol Lake Charles Chemical Complex has multiple manufacturing units. Primary products are used in the cleaning and personal care markets to manufacture ingredients for soaps, detergents, shampoos, cosmetics and more. Sasol also manufactures specialty chemicals used in mild abrasives, thickeners and pharmaceuticals, as well as in the enhanced oil recovery markets. A research and development laboratory is also located at the Lake Charles Chemical Complex.

Manufacturing at the Lake Charles site includes EtO production, as well as production of ethylene glycol and ethoxylated alcohol created by combining EtO with other substances on site in various processes.

Facility EtO Emissions Reporting Refinements

Since 2018, Sasol has had several discussions with LDEQ about Sasol's Louisiana ethylene oxide operations, permitting and continuous improvement emissions reduction program. Sasol reviewed their historical emissions data to ensure its accuracy.

In July 2019, Sasol commissioned an emissions testing firm to conduct testing on vents from the EtO process and EtO storage/unloading and byproducts storage/loading. Results of this testing indicated an actual destruction and removal efficiency of 99.9% for EtO, which meant an over-reporting of EtO emissions from 2014 to 2018.

Sasol then worked with LDEQ to correct the EtO emission data for the facility from 2014 to 2018, so the data would be more accurate. The updated facility EtO emissions data decreased the previously reported annual EtO emissions from 2014 to 2018 to over 80% and as much as 90%.

DRAFT STATEMENT: Updated Health Risk Assessment Underway

Based on 2018 data, EPA is updating the estimated inhalation public health risk from ethylene oxide in the community near Sasol. The 2018 data was chosen for its general availability and data quality. EPA will provide the results of this updated inhalation risk assessment when they are available.

Additional information on will be provided on this website in future updates.

Ex. 5 Deliberative Process (DP)

Future Actions Planned

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